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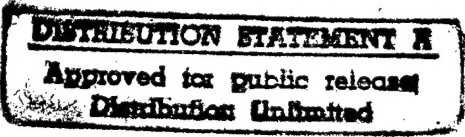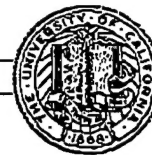
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Progress was made in estimating optimal extend of Life Testing under asymmetric loss function regime. A test was developed for exponentiality against monotone failure rates in hybrid systems. A characterization was conjectured and proved for a common and relevant family of Bivariate Exponential Distributions. Bayesian methods were successfully applied to Stress-strength configurations. "Safe-dose" methodologies were implemented that are relevant to human systems problems.

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Re: Air Force Grant Subcontract No. F 49620-97-1-0213/UC

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Enclosed please find the final report on the above grant.

Thanks and best regards.

Final Report

Study on Problems in Statistical Planning and Inference

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Principal Investigator: Subir Ghosh, Department of Statistics

University of California, Riverside, CA 92521-0138

Program Manager: Dr. Jon Sjogren

Research Done

Published Articles:

1. Ghosh, S. and Lai, C-L. (1997). Measuring influence of observations in prediction and estimation for central composite designs. Communications in Statistics, Simulation and Computation, 26(1), 233-257.

Accepted for Publications

1.. Ghosh,S. and Liu, T. (1997). On an optimization problem in comparing mixture designs. Journal of Combinatorics, Information and System Sciences, (13 pages).

2. Ghosh,S. and Liu,T. (1997). Determining an optimal performance condition in a mixture experiment. Frontiers in Reliability (A.P.Basu, ed.), World Scientific Publishing Co., (17 pages).

3. Ghosh,S. and Lopez, L.A. (1997). Evaluating statistical methods practiced in two important areas of quality improvement. Quality Improvement Through Statistical Methods (B. Abraham, ed.), Birkhauser Boston, Inc, (12 pages).

Submitted Publications:

1. Ghosh,S. and Fairchild, L.D. (1997). A new ANOVA and ANOCOVA for two-period crossover trial data,(32 pages).

2. Ghosh,S. and Fairchild, L.D. (1997). Testing interactions between treatments and subgroups within groups in a two-period crossover trial, (42 pages).

3. Ghosh,S. (1997). Designing propulsion reliability of space launch vehicles, (20 pages).

Interaction with the Phillips Lab, Edward Air Force Base

Summer Research Faculty during July, 1997- September, 1997 for 10 weeks.

Invited Speaker

1. Conference on Recent Advances in Statistics and Probability, Indian Statistical Institute, Calcutta, and the Bernoulli Society for Mathematical Statistics and Probability, December 29, 1997 – January 1, 1998.

2. Third International Triennial Calcutta Symposium on Probability and Statistics, Calcutta University, December 26-28, 1997.